WEST Search History

DATE: Friday, May 23, 2003

Set Name side by side	Query	Hit C unt	Set Name result set
DB=USPT,JPAB,EPAB,DWPI,TDBD; PLUR=YES; OP=OR			
L4	L2 and (phase adj1 transition)	6	L4
L3	L2 and DSPC	4	L3
L2	mlv$ same antibiotic$	31	L2
L1	dspc same antibiotic$	5	L1

END OF SEARCH HISTORY

L4: Entry 4 of 6 File: USPT Jun 16, 1987

DOCUMENT-IDENTIFIER: US 4673567 A
TITLE: Process for preparing liposome composition

Abstract Text (1):
Novel process for liposome compositions capable to retain larger amount of drugs with a small amount of phospholipid and to provide, therefore, safer medications of various drugs, which comprises dispersing multilamella vesicles or small unilamella vesicles in an aqueous medium in the presence of one or more clinically active ingredients at or over a temperature of the gel/liquid crystal-phase transition wherein lyophilization may be made before or after the dispersion.

Brief Summary Text (8):
This invention provides processes for preparing liposome compositions which comprises dispersing multilamella vesicles or small unilamella vesicles in an aqueous medium in the presence of one or more clinically active ingredients at or over a temperature of the gel-phase/liquid crystal-phase transition wherein lyophilization may be made before or after the dispersion.

Brief Summary Text (14):
In order to prepare liposome compositions by dispersing freeze-dried liposomes in an aqueous medium, it should be confirmed that liposomes can, even if the lipid of them is composed of a lecithin, be regenerated when the system is operated at an elevated temperature over the gel-/liquid crystal-phase transition temperature with regard to the lecithin involved.

Brief Summary Text (17):
The gel-/liquid crystal-phase transition temperature of the usual lipids is listed in a disclosure of Ann. Rev. Bioeng., 9, 467 (1980). A heating operation is not, of course, required in the regeneration step of the gel-/liquid crystal-phase transition temperature is room temperature or below; this case, therefore, does not fall within the scope of this invention.

Brief Summary Text (18):
The freeze-dried liposomes employed in this invention are the freeze-dried MLV or SLV prepared by the known method, which may be obtained by means of any method for lyophilization. Examples of the active ingredients involved are anti-cancer agents such as 5-fluorouracil, neomycin, bleomycin, or the like; antibiotic agents such as cefalexin, latamoxef, or the like; enzymes or homologues such as urokinase or the like; peptides such as interferon, interleukin, globulin, insulin or the like; nucleic acids such as DNA, RNA, or the like; vitamins; or the other agents such as sulfamethoxazole, phenobarbital, or the like.

Detailed Description Text (11):
Ultra-sonic wave (Daigaku ultra-sonic wave grinder, medium size tip, 120W.times.3 minutes) was radiated onto the MLV dispersion prepared with 300 mg of DPPC (Sigma I) in the same manner as in Example 1 to give a suspension of SUV. The SUV suspension was subject to cetrifugal separation (85,000 g.times.30 minutes), and then the supernatant was freeze-dried like in Example 1. Thus obtained freeze-dried sample of SUV was employed for such regeneration test as in Example 1. The results are summarized in Table 2. Referrence .circle.5 shows the comparative test result which was obtained by merely mixing the freeze-dried liposomes with an aqueous solution of 5-FU at room temperature, without heating over the phase transition temperature

concerning the membrance.

CLAIMS:

1. A process for preparing liposome compositions which comprises dispersing lyophilized multilamella vesicles or small unilamella vesicles in an aqueous medium in the presence of one or more clinically active ingredients at or over a temperature of the gel-phase/liquid crystal-phase transition.

L4: Entry 5 of 6 File: USPT May 13, 1986

DOCUMENT-IDENTIFIER: US 4588578 A
TITLE: Lipid vesicles prepared in a monophase

Brief Summary Text (12):
In addition to the storage problems of classical liposomes a number of compounds cannot be incorporated into these vesicles. For example, MLVs can only be prepared under conditions above the phase-transition temperature of the lipid membrane. This precludes the incorporation of heat labile molecules within liposomes that are composed of phospholipids which exhibit desirable properties but possess long and highly saturated side chains.

Brief Summary Text (34):
According to the present invention the evaporation should be accomplished at suitable temperatures and pressures which maintain the monophase and facilitate the evaporation of the solvents. In fact, the temperatures and pressures chosen are not dependent upon the phase-transition temperature of the lipid used to form the MPVs. The advantage of this latter point is that heat labile products which have desirable properties can be incorporated in MPVs prepared from phospholipids such as distearoylphosphatidylcholine, which can be formed into conventional liposomes only at temperatures above the phase-transition temperature of the phospholipids. The process usually allows more than 30-40% of the available water-soluble material to be entrapped during evaporation and 2-15% of the available water-soluble material to be entrapped during the resuspension; and up to 70-80% of the available lipid-soluble material can be if the lipid:drug ratio is increased significantly. With MLVs the entrapment of aqueous phase, which only occurs during the rehydration step since no aqueous phase is present during the drying step, usually does not exceed 10%.

Brief Summary Text (47):
In the following experiments vesicles were prepared which contained radioactive tracer molecules within the occluded aqueous compartments. When placed in a buffer containing isotonic saline at neutral pH, MPVs containing antibiotic exhibit prolonged stability in storage. The vesicles were prepared, each containing one of the following radio-labeled drugs: .sup.125 I-p-hydroxypropionic acid-derived gentamicin sulfate, .sup.14 C-indomethacin, and .sup.3 H-inulin. After storage at various temperatures for 14 days the vesicles were separated from the medium by centrifugation, and the relative amount of radioactivity that escaped from the vesicles into the medium was determined. The results demonstrated that both MPVs and SPLVs were more stable during storage than were MLVs.

Brief Summary Text (69):
We have demonstrated the effectiveness of such treatments in curing brucellosis and salmonellosis (see Examples, infra). By the procedure of this invention, the effectiveness and duration of action are prolonged. This system is effective for treating infections which do not respond to known treatments such as antibiotics entrapped in MLVs.

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Search Results - Record(s) 1 through 6 of 6 returned.

☐ 1. Document ID: US 5169637 A

L4: Entry 1 of 6 File: USPT Dec 8, 1992

US-PAT-NO: 5169637
DOCUMENT-IDENTIFIER: US 5169637 A

TITLE: Stable plurilamellar vesicles

DATE-ISSUED: December 8, 1992

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Lenk; Robert P.	Lambertville	NJ		
Fountain; Michael W.	Griggstown	NJ		
Janoff; Andrew S.	Yardley	PA		
Popescu; Mircea C.	Plainsboro	NJ		
Weiss; Steven J.	Hightstown	NJ		
Ginsberg; Richard S.	Monroe Township, Salem County	NJ		
Ostro; Marc J.	Griggstown	NJ		
Gruner; Sol M.	Lawrenceville	NJ		

US-CL-CURRENT: 424/450; 514/152, 514/192, 514/2, 514/29, 514/39, 514/41

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWMC | Draw. Desc | Image

☐ 2. Document ID: US 5030453 A

L4: Entry 2 of 6 File: USPT Jul 9, 1991

US-PAT-NO: 5030453
DOCUMENT-IDENTIFIER: US 5030453 A

TITLE: Stable plurilamellar vesicles

DATE-ISSUED: July 9, 1991

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Lenk; Robert P.	Lambertville	NJ		
Fountain; Michael W.	Griggstown	NJ		
Janoff; Andrew S.	Yardley	PA		
Popescu; Mircea C.	Plainsboro	NJ		
Weiss; Steven J.	Hightstown	NJ		
Ginsberg; Richard S.	Monroe Township,	NJ		
Ostro; Marc J.	Griggstown	NJ		
Gruner; Sol M.	Lawrenceville	NJ		

US-CL-CURRENT: 424/450

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw Desc | Image

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☐ 3. Document ID: US 4971803 A

L4: Entry 3 of 6 File: USPT Nov 20, 1990

US-PAT-NO: 4971803
DOCUMENT-IDENTIFIER: US 4971803 A

TITLE: Lamellar vesicles formed of cholesterol derivatives

DATE-ISSUED: November 20, 1990

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Li; Ming P.	Pasadena	CA		
Baldeschwieler; John D.	Pasadena	CA		

US-CL-CURRENT: 424/450; 264/4.1, 428/402.2, 514/772

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw Desc | Image

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☐ 4. Document ID: US 4673567 A

L4: Entry 4 of 6 File: USPT Jun 16, 1987

US-PAT-NO: 4673567
DOCUMENT-IDENTIFIER: US 4673567 A

TITLE: Process for preparing liposome composition

DATE-ISSUED: June 16, 1987

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Jizomoto; Hiroaki	Osaka			JP

US-CL-CURRENT: 424/450; 264/4.3, 264/4.6

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC
Draw Desc | Image

☐ 5. Document ID: US 4588578 A

L4: Entry 5 of 6 File: USPT May 13, 1986

US-PAT-NO: 4588578
DOCUMENT-IDENTIFIER: US 4588578 A

TITLE: Lipid vesicles prepared in a monophase

DATE-ISSUED: May 13, 1986

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Fountain; Michael W.	Plainsboro	NJ		
Weiss; Steven J.	Heightstown	NJ		
Popescu; Mircea C.	Plainsboro	NJ		

US-CL-CURRENT: 424/1.21; 264/4.6, 424/450, 428/402.2, 436/829

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC
Draw Desc | Image

☐ 6. Document ID: US 4522803 A

L4: Entry 6 of 6 File: USPT Jun 11, 1985

US-PAT-NO: 4522803
DOCUMENT-IDENTIFIER: US 4522803 A

TITLE: Stable plurilamellar vesicles, their preparation and use

DATE-ISSUED: June 11, 1985

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Lenk; Robert P.	Lambertville	NJ		
Fountain; Michael W.	Plainsboro	NJ		
Janoff; Andrew S.	Lawrenceville	NJ		
Ostro; Marc J.	North Brunswick	NJ		
Popescu; Micrea C.	Plainsboro	NJ		

US-CL-CURRENT: 424/1.21; 264/4.6, 424/450, 428/402.2, 436/829, 504/359, 514/44

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC
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Terms	Documents
L2 and (phase adj1 transition)	6

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WEST Search History

DATE: Friday, May 23, 2003

Set Name side by side	Query	Hit Count	Set Name result set
	DB=USPT,JPAB,EPAB,DWPI,TDBD; PLUR=YES; OP=OR		
L5	L3 same (above adj3 phase)	22	L5
L4	L3 and (above adj3 phase)	124	L4
L3	(multilamellar or paucilamellar)	2625	L3
L2	(multilamellar or paucilamellar) same (transition adj5 above)	0	L2
L1	(multilamellar or paucilamellar) same (transition adj3 above)	0	L1

END OF SEARCH HISTORY

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L5: Entry 21 of 22 File: EPAB Apr 8, 1999

DOCUMENT-IDENTIFIER: WO 9916426 A2
TITLE: MULTILAMELLAR COALESCENCE VESICLES (MLCV) CONTAINING BIOLOGICALLY ACTIVE COMPOUNDS

Abstract Text (1):
CHG DATE=19990905 STATUS=O>A method for producing multilamellar coalescence vesicles (MLCVs) containing increased amounts of biologically active compound is disclosed. The method involves hydrating at least one powdered lipid in an aqueous buffer at a temperature above the phase transition temperature of the highest melting lipid to form multilamellar vesicles, reducing the size of the multilamellar vesicles to about 20-400 nm to produce small unilamellar vesicles (SUVs) or large unilamelar vesicles (LUVs) or a mixture thereof; and incubating the SUVs, LUVs or mixture thereof with a biologically active compound in an aqueous solution under sufficient conditions to form MLCVs containing the biologically active compound without the use of an organic solvent, a freeze-thawing step or a dehydration step. MLCVs produced by this method contain increased amounts of biologically active compound over prior art liposomes produced with an organic solvent, a freeze-thawing step or a dehydration step and fewer vesicles are substantially free of biologically active compound.

L5: Entry 17 of 22 File: USPT Jun 12, 1990

DOCUMENT-IDENTIFIER: US 4933121 A
TITLE: Process for forming liposomes

Brief Summary Text (4):
The production of a liposome which encapsulates a macromolecule by high-pressure extrusion process is known to the art. An article by Peter I. Lelkes discloses the use of a French press to form various forms of encapsulating liposomes, for example, a homogeneous population of small unilamellar vesicles, i.e. liposomes, or a mixture of oligolamellar and multilamellar vesicles, all referred to as FPVs. See Liposome Technology, Gregory Gregoriadis (ed.), Vol. 1, Chap. 5, (1984) pp. 51-65. Essentially, an aqueous suspension of a hydrated phospholipid encapsulating a macromolecule is extruded through an orifice at pressures of between 5,000 and 20,000 psi. If the extrusion is done at a temperature above the phase transition temperature, then small unilamellar liposomes result. However, if not, then a mixture of oligolamellar and multilamellar liposomes are formed.

L5: Entry 16 of 22 File: USPT May 7, 1991

DOCUMENT-IDENTIFIER: US 5013556 A
TITLE: Liposomes with enhanced circulation time

Detailed Description Text (108):
Multilamellar vesicle (MLV) liposomes were prepared according to standard procedures by dissolving a mixture of lipids in an organic solvent containing primarily CHCl.sub.3 and drying the lipids as a thin film by rotation under reduced pressure. In some cases a radioactive label for the lipid phase was added to the lipid solution before drying. The lipid film was hydrated by addition of the desired aqueous phase and 3 mm glass beads followed by agitation with a vortex and shaking above the phase transition temperature of the phospholipid component for at least 1 hour. In some cases a radioactive label for the aqueous phase was included in the buffer. In some cases the hydrated lipid was repeatedly frozen and thawed three times to provide for ease of the following extrusion step.

L5: Entry 12 of 22 File: USPT Oct 18, 1994

DOCUMENT-IDENTIFIER: US 5356633 A
TITLE: Method of treatment of inflamed tissues

Detailed Description Text (173):
Multilamellar vesicle (MLV) liposomes were prepared according to standard procedures by dissolving a mixture of lipids in an organic solvent containing primarily CHCl.sub.3 and drying the lipids as a thin film by rotation under reduced pressure. In some cases a radioactive label for the lipid phase was added to the lipid solution before drying. The lipid film was hydrated by addition of the desired aqueous phase and 3 mm glass beads followed by agitation with a vortex and shaking above the phase transition temperature of the phospholipid component for at least 1 hour. In some cases a radioactive label for the aqueous phase was included in the buffer. In some cases the hydrated lipid was repeatedly frozen and thawed three times to provide for ease of the following extrusion step.

Detailed Description Text (176):
Multilamellar vesicles were prepared by hydrating either of two solid lipid mixture forms: thin film or lyophilized tertbutanol solution. Lipid mixtures were prepared with one or more of the following: partially hydrogenated egg phosphatidylcholine (PHEPC) with an iodine value of 40 (Asahi Chemical, Japan) hydrogenated soy phosphatidylcholine (HSPC) (Avanti Polar Lipids, Alabaster, Ala.), USP grade cholesterol (C) (Croda), N-carbamyl-poly(ethylene glycol methyl ether)-1,2-distearyl-sn-glycero-3-phospho-ethanolamine, sodium salt (MPEG-1900-DSPE) (Chemsyn, Lenexa, Kans.). Thin films of lipids were hydrated by shaking with the component. The resulting liposomes dispersions were frozen and thawed three times before further processing. Lyophilized lipid mixtures were hydrated by shaking with the aqueous phase as above. Extrusion was performed under high pressure in a stainless steel cell (MICO, Middleton, Wis.) through successively smaller defined pore filters until a pore size of 0.05 .mu.m diameter was reached (Nucleopore, Pleasanton, Calif.) or a mean particle diameter of less than or equal to 100 nm. The particle size distribution was determined by dynamic light scattering (Coulter N4SD). Phospholipid concentrations were measured by phosphorus determination (Bartlett, 1959). In some cases, the lipids were hydrated by slowly pouring ethanol lipid solutions into an aqueous solution above the phase transition temperature of the phospholipid component and shaking for 60 min. These dispersions were homogenized with a Rannie Minilab-8 (St. Paul, Minn.) above the phase transition temperature of the phospholipid component at pressures sufficient to give a mean particle diameter of less than or equal to 100 nm. In one case, the homogenization pressure was reduced to yield a sample with a mean particle diameter of 150 nm.

L5: Entry 11 of 22 File: USPT Sep 3, 1996

DOCUMENT-IDENTIFIER: US 5552156 A
TITLE: Liposomal and micellular stabilization of camptothecin drugs

Detailed Description Text (27):
Small unilamellar liposomes composed of dimyristoyl phosphatidylcholine were prepared as follows. Dry lipid powder DMPC from Avanti Polar Lipids was weighed out and suspended at a concentration of 0.29M lipid in PBS buffer at a pH of 7.4. This suspension was heated to approximately 40.degree. C. a temperature above the phase transition temperature (T.sub.m) of the lipid and aggressively mixed by vortex while maintaining the temperature at about 40.degree. C. which produced multilamellar vesicles. These MLVs were then sonicated in a glass tube in a bath-type sonicator from Laboratory Supplies Co., Hicksville, N.Y., for 1 to 4 hours or until the sample became optically clear. The optical clarity indicates that particle size has been reduced to the 350-600 A.degree. range.

L5: Entry 9 of 22 File: USPT Dec 16, 1997

DOCUMENT-IDENTIFIER: US 5698677 A
TITLE: Stable preparation for the treatment of blood coagulation disorders

Brief Summary Text (31):
This method should be carried out at a temperature at which the phospholipids are found in a liquid-crystalline state (at least 5.degree. C., preferably at least 10.degree. C. above the phase transition temperature, T.sub.M). Optionally, a repeated freeze-thaw cycle is introduced before the extrusion (M. J. Hope et al., Biochem. Biophys. Acta 812, 55-65, 1985). Furthermore, an embodiment has proven to be particularly advantageous. Here, the dispersion of multilamellar vesicles is produced as outlined above, lyophilized, and reconstituted again with water. Thereby, the subsequent extrusion can be carried out particularly easily and also with very high lipid concentrations for example, 100 mg lipid/ml).

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L5: Entry 8 of 22 File: USPT Apr 7, 1998

DOCUMENT-IDENTIFIER: US 5736156 A
TITLE: Liposomal anf micellular stabilization of camptothecin drugs

Detailed Description Text (27):
Small unilamellar liposomes composed of dimyristoyl phosphatidylcholine were prepared as follows. Dry lipid powder DMPC from Avanti Polar Lipids was weighed out and suspended at a concentration of 0.29M lipid in PBS buffer at a pH of 7.4. This suspension was heated to approximately 40.degree. C., a temperature above the phase transition temperature (T.sub.m) of the lipid and aggressively mixed by vortex while maintaining the temperature at about 40.degree. C. which produced multilamellar vesicles. These MLVs were then sonicated in a glass tube in a bath-type sonicator from Laboratory Supplies Co., Hicksville, N.Y., for 1 to 4 hours or until the sample became optically clear. The optical clarity indicates that particle size has been reduced to the 350-600 A.degree. range.

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L5: Entry 7 of 22 File: USPT Jun 30, 1998

DOCUMENT-IDENTIFIER: US 5773027 A
**** See image for Certificate of Correction ****
TITLE: Liposomes encapsulating antiviral drugs

Detailed Description Text (16):
2'-3'-dideoxyinosine (ddI) was encapsulated into liposomes composed of DSPC:DSPG in a molar ratio of 10:3 and DSPC:DSPG:DSPE-PEG in a molar ratio of 10:3:1.45 using the thin lipid film hydration. DSPE-PEG can be synthetized according to Example 1 or obtained commercially. In brief, the lipid mixture was dissolved in chloroform:methanol (2:1 v/v) in presence of a small proportion of [.sup.14 C]-DPPC (<0.002% mol/mol) and solvent was next evaporated in a round bottom flask to form a thin lipid film on the wall of the flask. The lipid film was then hydrated with a phosphate buffered solution (PBS, 145 mM, pH 7.4) of ddI in a drug/lipid molar ratio of 2 in which a small proportion of radiolabeled [.sup.3 H]-ddI was added. After approximately a 30 minutes stand at room temperature, multilamellar vesicles (MLVs) were formed upon mechanical agitation of the liposomal preparation at a temperature above the gel to fluid phase transition of the lipid mixture. MLVS were extruded with a stainless steel extrusion device (Lipex Biomembrane, Vancouver, BC) through polycarbonate membranes (Nuclepore, Cambridge, Mass.) of 0.2 .mu.m. Vesicles size distribution and homogeneity were evaluated by quasi-elastic light scattering (QELS) with a submicron particle analyzer (model N4SD Coulter Electronics, Hialeah, Fla.). The mean diameter of the extruded liposomes was 0.175.+-.0.035 .mu.m and 0.15.+-.0.01 .mu.m for the DSPC:DSPG and DSPC:DSPG:DSPE-PEG formulations, respectively. Unencapsulated drug was removed either by centrifugation (300 g for 15 min at 4.degree. C.) of the liposomal preparation (1 ml) through a 10 ml column of coarse Sephadex G-50 (Pharmacia LKB, Montreal, QC), ultracentrifugation (160000 g for 90 min at 4.degree. C.) or by dialysis against a determined volume of PBS. Efficiency of drug entrapment has been determined with the use of a liquid scintillation counter (model LS 6000TA, Beckman Instruments Canada Inc., Mississauga, ON).

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Search Results - Record(s) 1 through 22 of 22 returned.

☐ 1. Document ID: US 6544549 B1

L5: Entry 1 of 22 File: USPT Apr 8, 2003

US-PAT-NO: 6544549
DOCUMENT-IDENTIFIER: US 6544549 B1

TITLE: Multilamellar coalescence vesicles (MLCV) containing biologically active compounds

DATE-ISSUED: April 8, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Boni; Lawrence T.	Monmouth Junction	NJ		
Batenjany; Michael M.	Hamilton	NJ		
Gevantmakher; Stella	Plainsboro	NJ		
Popescu; Mircea C.	Plainsboro	NJ		

US-CL-CURRENT: 424/450; 264/4.1, 264/4.3

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw. Desc | Image

☐ 2. Document ID: US 6346233 B1

L5: Entry 2 of 22 File: USPT Feb 12, 2002

US-PAT-NO: 6346233
DOCUMENT-IDENTIFIER: US 6346233 B1
**** See image for Certificate of Correction ****

TITLE: Composition for treating cancer via liposomal aerosol formulation containing taxol

DATE-ISSUED: February 12, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Knight; J. Vernon	Houston	TX		
Waldrep; J Clifford	The Woodlands	TX		
Koshkina; Nadezhda	Houston	TX		
Gilbert; Brian	Houston	TX		

US-CL-CURRENT: 424/45; 424/450, 424/46

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC
Draw Desc | Image

☐ 3. Document ID: US 6090407 A

L5: Entry 3 of 22 File: USPT Jul 18, 2000

US-PAT-NO: 6090407
DOCUMENT-IDENTIFIER: US 6090407 A
**** See image for Certificate of Correction ****

TITLE: Small particle liposome aerosols for delivery of anti-cancer drugs

DATE-ISSUED: July 18, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Knight; J. Vernon	Houston	TX		
Gilbert; Brian	Houston	TX		
Waldrep; J. Clifford	The Woodlands	TX		
Koshkina; Nadezhda	Houston	TX		

US-CL-CURRENT: 424/450; 424/45, 514/938

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC
Draw Desc | Image

☐ 4. Document ID: US 6017891 A

L5: Entry 4 of 22 File: USPT Jan 25, 2000

US-PAT-NO: 6017891
DOCUMENT-IDENTIFIER: US 6017891 A
**** See image for Certificate of Correction ****

TITLE: Stable preparation for the treatment of blood coagulation disorders

DATE-ISSUED: January 25, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Eibl; Johann	Vienna			AT
Schwarz; Hans Peter	Vienna			AT
Siekmann; Juergen	Vienna			AT
Turecek; Peter	Vienna			AT

US-CL-CURRENT: 514/21; 424/450, 514/78

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC
Draw Desc | Image

☐ 5. Document ID: US 5958378 A

L5: Entry 5 of 22 File: USPT Sep 28, 1999

US-PAT-NO: 5958378
DOCUMENT-IDENTIFIER: US 5958378 A
**** See image for Certificate of Correction ****

TITLE: High dose liposomal aerosol formulations containing cyclosporin A or budesonide

DATE-ISSUED: September 28, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Waldrep; J. Clifford	The Woodlands	TX		
Knight; Vernon	Houston	TX		
Black; Melanie B.	The Woodlands	TX		

US-CL-CURRENT: 424/45; 424/450

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

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☐ 6. Document ID: US 5843473 A

L5: Entry 6 of 22 File: USPT Dec 1, 1998

US-PAT-NO: 5843473
DOCUMENT-IDENTIFIER: US 5843473 A

TITLE: Method of treatment of infected tissues

DATE-ISSUED: December 1, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Woodle; Martin C.	Menlo Park	CA		
Bakker-Woudenberg; Irma A.J.M.	Bergschenhoek			NL
Martin; Francis J.	San Francisco	CA		

US-CL-CURRENT: 424/450; 514/62, 514/78

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

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☐ 7. Document ID: US 5773027 A

L5: Entry 7 of 22 File: USPT Jun 30, 1998

US-PAT-NO: 5773027
DOCUMENT-IDENTIFIER: US 5773027 A
**** See image for Certificate of Correction ****

TITLE: Liposomes encapsulating antiviral drugs

DATE-ISSUED: June 30, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Bergeron; Michel G.	Sillery			CA
Desormeaux; Andre	Neufchatel			CA

US-CL-CURRENT: 424/450; 514/934

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

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☐ 8. Document ID: US 5736156 A

L5: Entry 8 of 22 File: USPT Apr 7, 1998

US-PAT-NO: 5736156
DOCUMENT-IDENTIFIER: US 5736156 A

TITLE: Liposomal anf micellular stabilization of camptothecin drugs

DATE-ISSUED: April 7, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Burke; Thomas G.	Columbus	OH		

US-CL-CURRENT: 424/450; 514/279, 514/283

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

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☐ 9. Document ID: US 5698677 A

L5: Entry 9 of 22 File: USPT Dec 16, 1997

US-PAT-NO: 5698677
DOCUMENT-IDENTIFIER: US 5698677 A

TITLE: Stable preparation for the treatment of blood coagulation disorders

DATE-ISSUED: December 16, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Eibl; Johann	Vienna			AT
Schwarz; Hans Peter	Vienna			AT
Siekmann; Jurgen	Vienna			AT
Turecek; Peter	Vienna			AT

US-CL-CURRENT: 530/381; 424/450, 424/529, 435/236, 530/380, 530/382, 530/383, 530/384

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC
Draw. Desc | Image

☐ 10. Document ID: US 5658898 A

L5: Entry 10 of 22 File: USPT Aug 19, 1997

US-PAT-NO: 5658898
DOCUMENT-IDENTIFIER: US 5658898 A

TITLE: Intravenous solutions for a derivative of staurosporine

DATE-ISSUED: August 19, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Weder; Hans Georg	Ruschlikon			CH
Isele; Ute	Ihringen			DE

US-CL-CURRENT: 514/78; 424/450, 514/211.08, 514/937

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC
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☐ 11. Document ID: US 5552156 A

L5: Entry 11 of 22 File: USPT Sep 3, 1996

US-PAT-NO: 5552156
DOCUMENT-IDENTIFIER: US 5552156 A

TITLE: Liposomal and micellular stabilization of camptothecin drugs

DATE-ISSUED: September 3, 1996

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Burke; Thomas G.	Columbus	OH		

US-CL-CURRENT: 424/450

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC
Draw. Desc | Image

☐ 12. Document ID: US 5356633 A

L5: Entry 12 of 22 File: USPT Oct 18, 1994

US-PAT-NO: 5356633
DOCUMENT-IDENTIFIER: US 5356633 A

TITLE: Method of treatment of inflamed tissues

DATE-ISSUED: October 18, 1994

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Woodle; Martin C.	Menlo Park	CA		
Martin; Francis J.	San Francisco	CA		
Huang; Shi K.	Castro Valley	CA		

US-CL-CURRENT: 424/450; 424/423, 424/426, 514/863, 514/886

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC
Draw Desc | Image

☐ 13. Document ID: US 5225212 A

L5: Entry 13 of 22 File: USPT Jul 6, 1993

US-PAT-NO: 5225212
DOCUMENT-IDENTIFIER: US 5225212 A

TITLE: Microreservoir liposome composition and method

DATE-ISSUED: July 6, 1993

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Martin; Francis J.	San Francisco	CA		
Woodle; Martin C.	Menlo Park	CA		
Redemann; Carl	Walnut Creek	CA		
Yau-Young; Annie	Palo Alto	CA		
Radhakrishnan; Ramachandran	Fremont	CA		

US-CL-CURRENT: 424/450; 424/426, 424/78.31

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC
Draw Desc | Image

☐ 14. Document ID: US 5213804 A

L5: Entry 14 of 22 File: USPT May 25, 1993

US-PAT-NO: 5213804
DOCUMENT-IDENTIFIER: US 5213804 A
**** See image for Certificate of Correction ****

TITLE: Solid tumor treatment method and composition

DATE-ISSUED: May 25, 1993

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Martin; Francis J.	San Francisco	CA		
Woodle; Martin C.	Menlo Park	CA		
Redemann; Carl	Walnut Creek	CA		
Yau-Young; Annie	Palo Alto	CA		

US-CL-CURRENT: 424/450; 424/426, 424/78.31

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

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☐ 15. Document ID: US 5094785 A

L5: Entry 15 of 22 File: USPT Mar 10, 1992

US-PAT-NO: 5094785
DOCUMENT-IDENTIFIER: US 5094785 A

TITLE: Process for stabilizing liposomes

DATE-ISSUED: March 10, 1992

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Law; Say-Jong	Westwood	MA		
Piran; Uri	Sharon	MA		

US-CL-CURRENT: 264/4.3; 264/4.1, 264/4.6, 424/450, 424/94.3, 425/5, 436/829

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

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☐ 16. Document ID: US 5013556 A

L5: Entry 16 of 22 File: USPT May 7, 1991

US-PAT-NO: 5013556
DOCUMENT-IDENTIFIER: US 5013556 A

TITLE: Liposomes with enhanced circulation time

DATE-ISSUED: May 7, 1991

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Woodle; Martin C.	Menlo Park	CA		
Martin; Francis J.	San Francisco	CA		
Yau-Young; Annie	Los Altos	CA		
Redemann; Carl T.	Walnut Creek	CA		

US-CL-CURRENT: 424/450; 264/4.3, 424/1.21

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Draw. Desc | Image | KWIC

☐ 17. Document ID: US 4933121 A

L5: Entry 17 of 22 File: USPT Jun 12, 1990

US-PAT-NO: 4933121
DOCUMENT-IDENTIFIER: US 4933121 A

TITLE: Process for forming liposomes

DATE-ISSUED: June 12, 1990

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Law; Say-Jong	Westwood	MA		
Piran; Uri	Sharon	MA		

US-CL-CURRENT: 264/4.3; 264/4.1, 264/4.6, 424/450, 424/94.3, 425/5, 436/829

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Draw. Desc | Image | KWIC

☐ 18. Document ID: US 4921706 A

L5: Entry 18 of 22 File: USPT May 1, 1990

US-PAT-NO: 4921706
DOCUMENT-IDENTIFIER: US 4921706 A
**** See image for Certificate of Correction ****

TITLE: Unilamellar lipid vesicles and method for their formation

DATE-ISSUED: May 1, 1990

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Roberts; Mary P.	Newton	MA		
Gabriel; Nancy E.	Wellesley	MA		

US-CL-CURRENT: 424/450; 264/4.1, 264/4.6, 424/1.21, 428/402.2, 436/829, 554/79, 554/80

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Draw. Desc | Image | KWIC

☐ 19. Document ID: US 4675310 A

L5: Entry 19 of 22 File: USPT Jun 23, 1987

US-PAT-NO: 4675310

DOCUMENT-IDENTIFIER: US 4675310 A

TITLE: Liposome composition as gas transport agents

DATE-ISSUED: June 23, 1987

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Chapman; Dennis	Beaconsfield			GB2
Hayward; James A.	London			GB2

US-CL-CURRENT: 514/6; 514/75, 514/76, 514/78

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Draw Desc | Image | KWIC

☐ 20. Document ID: US 4397846 A

L5: Entry 20 of 22 File: USPT Aug 9, 1983

US-PAT-NO: 4397846
DOCUMENT-IDENTIFIER: US 4397846 A

TITLE: Storage-stable lipid vesicles and method of preparation

DATE-ISSUED: August 9, 1983

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Weiner; Murray	Cincinnati	OH	45242	
Gersonde; Klaus	D-5100 Aachen			DE

US-CL-CURRENT: 514/104; 514/772

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Draw Desc | Image | KWIC

☐ 21. Document ID: WO 9916426 A2

L5: Entry 21 of 22 File: EPAB Apr 8, 1999

PUB-NO: WO009916426A2
DOCUMENT-IDENTIFIER: WO 9916426 A2
TITLE: MULTILAMELLAR COALESCENCE VESICLES (MLCV) CONTAINING BIOLOGICALLY ACTIVE COMPOUNDS

PUBN-DATE: April 8, 1999

INVENTOR-INFORMATION:

NAME	COUNTRY
BONI, LAWRENCE T	US
BATENJANY, MICHAEL M	US
GEVANTMAKHER, STELLA	US
POPESCU, MIRCEA C	US

INT-CL (IPC): A61 K 9/127
EUR-CL (EPC): A61K009/127; A61K009/127

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Draw. Desc | Image | KWIC

☐ 22. Document ID: US 6544549 B1 WO 9916426 A2 AU 9896800 A EP 1019026 A2 JP 2001517693 W AU 745000 B

L5: Entry 22 of 22 File: DWPI Apr 8, 2003

DERWENT-ACC-NO: 1999-277032
DERWENT-WEEK: 200327
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TITLE: Multilamellar coalescence vesicles with high incorporation of biologically active compounds

INVENTOR: BATENJANY, M M; BONI, L T ; GEVANTMAKHER, S ; POPESCU, M C

PRIORITY-DATA: 1997US-060606P (October 1, 1997), 1998US-0164350 (October 1, 1998)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
US 6544549 B1	April 8, 2003		000	A61K009/127
WO 9916426 A2	April 8, 1999	E	035	A61K009/127
AU 9896800 A	April 23, 1999		000	
EP 1019026 A2	July 19, 2000	E	000	A61K009/127
JP 2001517693 W	October 9, 2001		038	A61K009/127
AU 745000 B	March 7, 2002		000	A61K009/127

INT-CL (IPC): A61 K 9/127; A61 K 31/7088; A61 K 38/00; A61 K 39/00; A61 K 39/395

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Draw. Desc | Image | KWIC

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